Analyses to Support Conversion Date Decisions

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Goals

- Assemble historical data
- Characterize patterns that may be relevant to conversion date decision
- Iteratively assess how, (or if) this information can be used to inform decision making

Historical Data

- Daily fire growth data
  - Characterize how early season activity relates to late season activity
- Patterns of atmospheric circulation
  - Examine how atmospheric circulation metrics correlate to the persistence of early season patterns

Year	Annual Totals		Prior to July 10th		Acres burned by fire with ignition date prior to July 10th	% of total Acres burned by fire with ignition date prior to July 10th
	# Fires	# Acres	# Fires	% of Annual Fires		
2000	305	756,282	289	94.8	739,382	97.8
2001	341	216,032	306	89.7	212,488	98.4
2002	510	2,183,265	369	72.4	1,196,410	54.8
2003	433	602,718	361	83.4	550,164	91.3
2004	701	6,590,140	405	57.8	5,910,926	89.7
2005	624	4,649,597	453	72.6	2,629,299	56.5
2006	307	266,268	232	75.6	248,106	93.2
2007	509	649,411	394	77.4	374,768	57.7
2008	367	103,649	299	81.5	103,088	99.5
2009	527	2,951,593	378	71.7	2,129,091	72.1
2010	688	1,125,419	563	81.8	1,084,065	96.3
Totals	**5,312**	**20,094,374**	**4,049**	**76.2**	**15,177,787**	**75.5**
Average/Year	**483**	**1,826,761**	**368**	**78.1**	**1,379,799**	**82.5**

*Previous analysis provided by Kent Slaughter

Daily Fire Growth Data

- How important is the information regarding acreage as a function of ignition date?
- We don’t know this info until the end of the season.
- How important is the 82% average across all years?

Daily Fire Growth Data

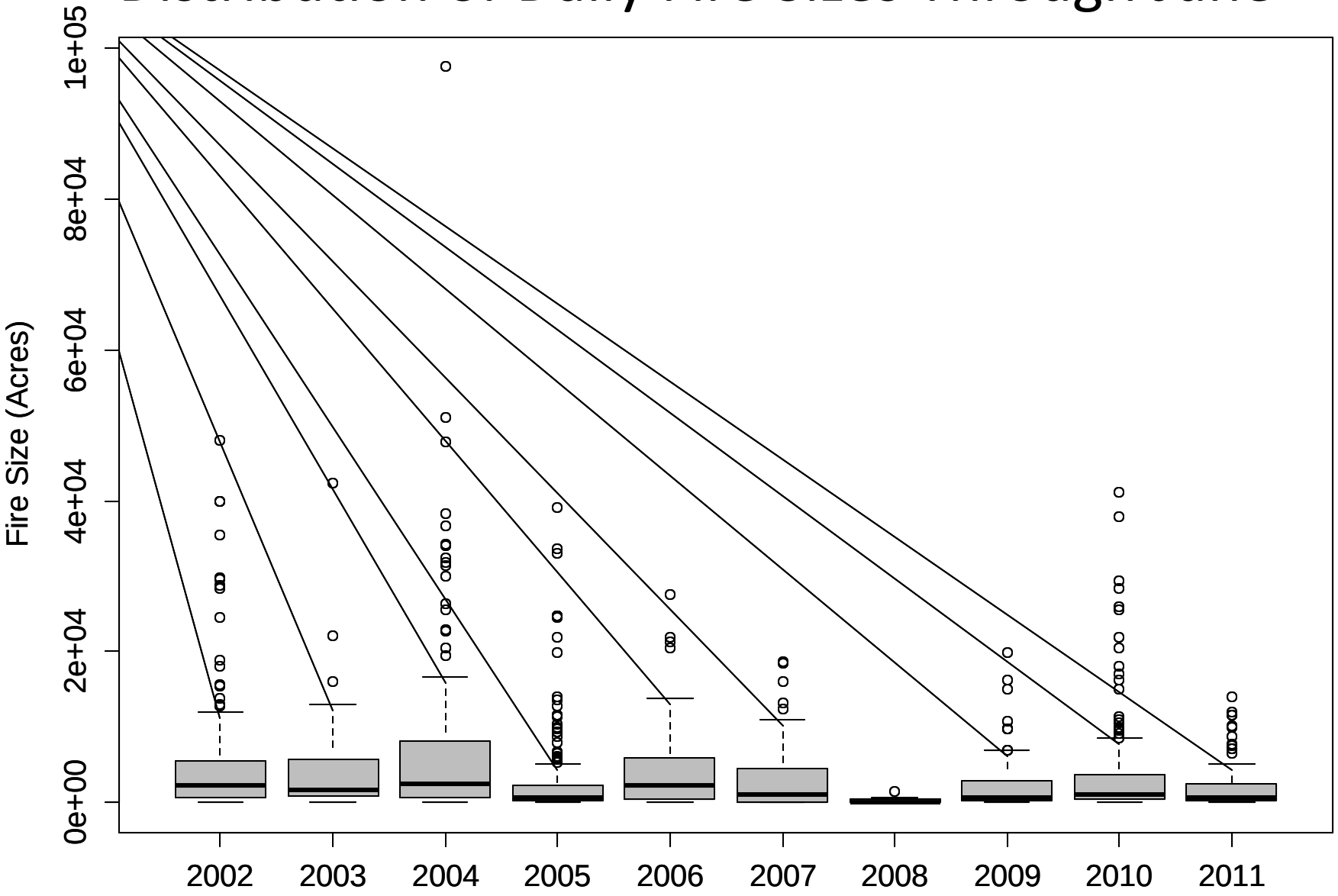
- How important is the information regarding ignition date?
  - Is information relating pre-July to post July 1st useful?
- How important is the 82% average across all years?
  - Do average years drive decision making?

Daily Fire Growth Data

- I've been looking at how the distribution of daily growth and total area burned through June relates to the area burned after July 1st.

- Does the activity of the season through June tell us anything about the rest of the year?

Distribution of Daily Fire Sizes Through June



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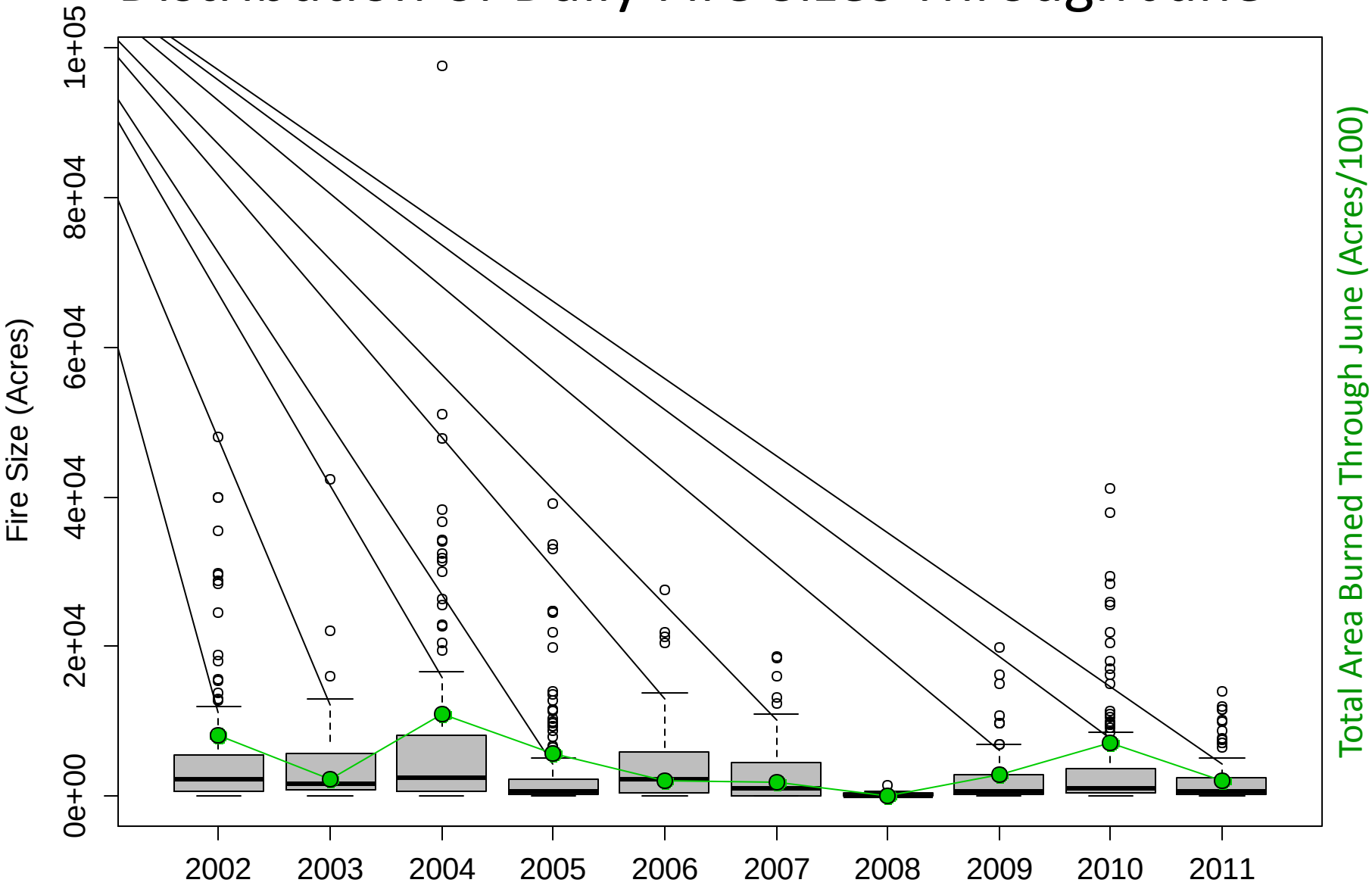

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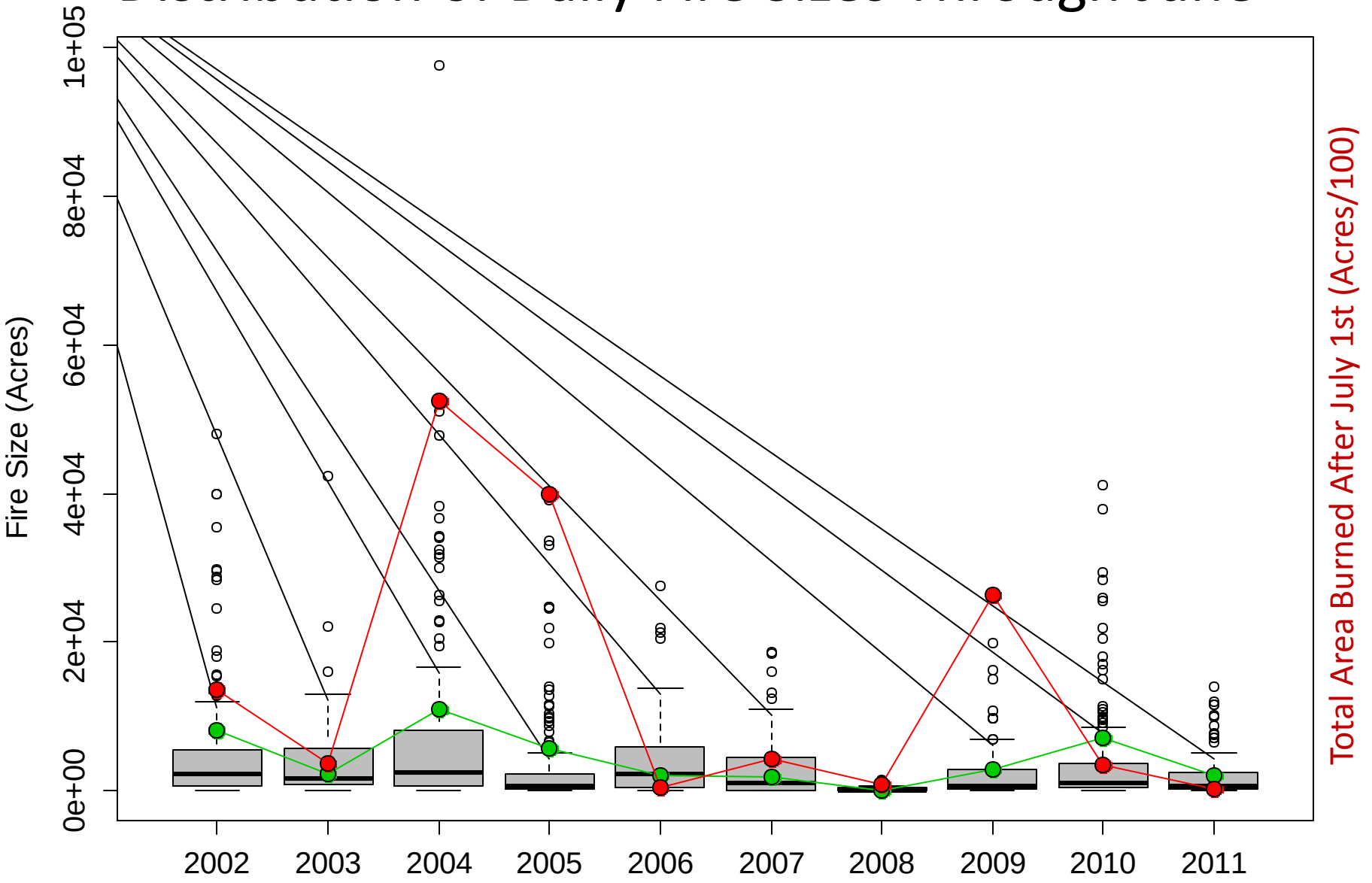
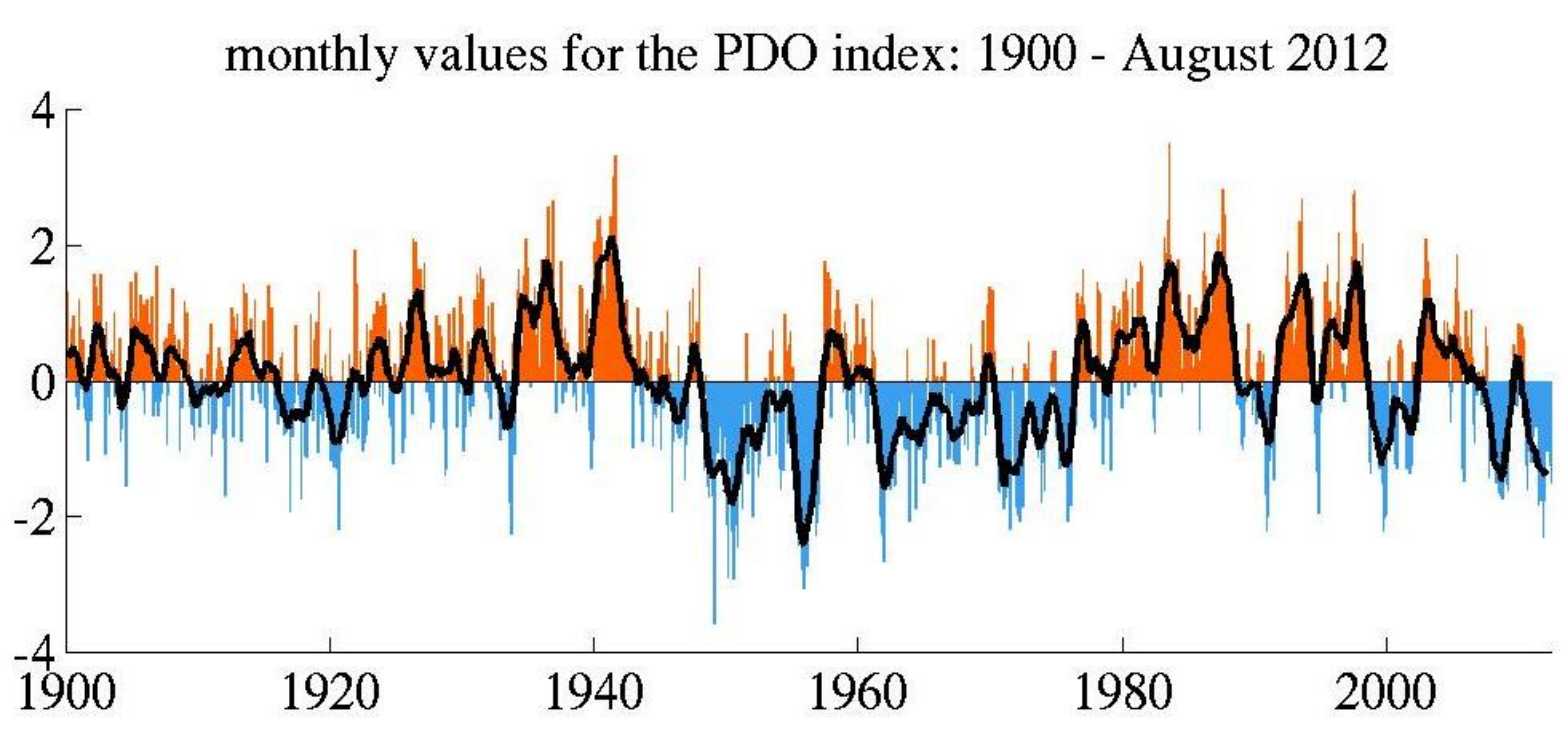


Daily Fire Growth Data

- These analyses provide context for understanding the information that will be available at the end of June 2013.

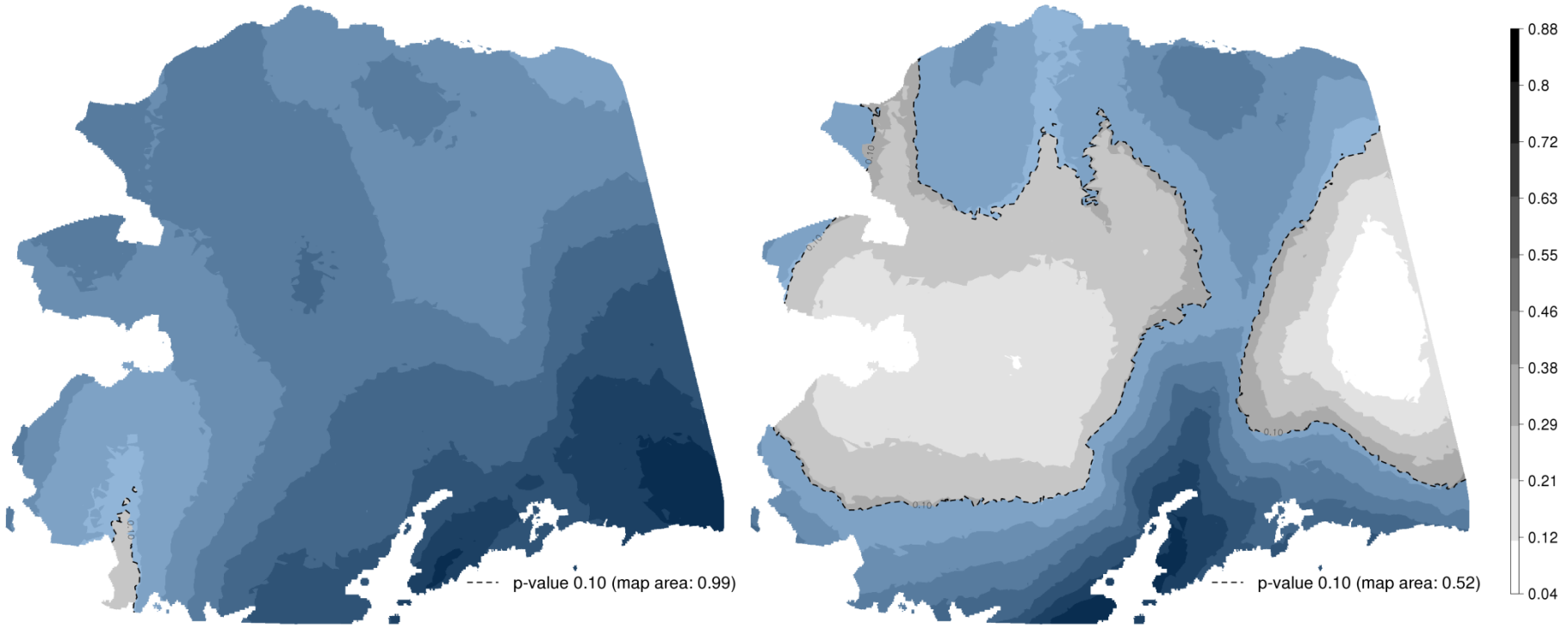
PDO Impacts on the Summer

- We have also found that during the warm phase of the PDO, early season anomalies are more likely to persist.



Warm Phase Correlations

Cool Phase Correlations



- Strength of relationship between June temperature and July temperature is stronger during the warm phase

Warm Phase Correlations

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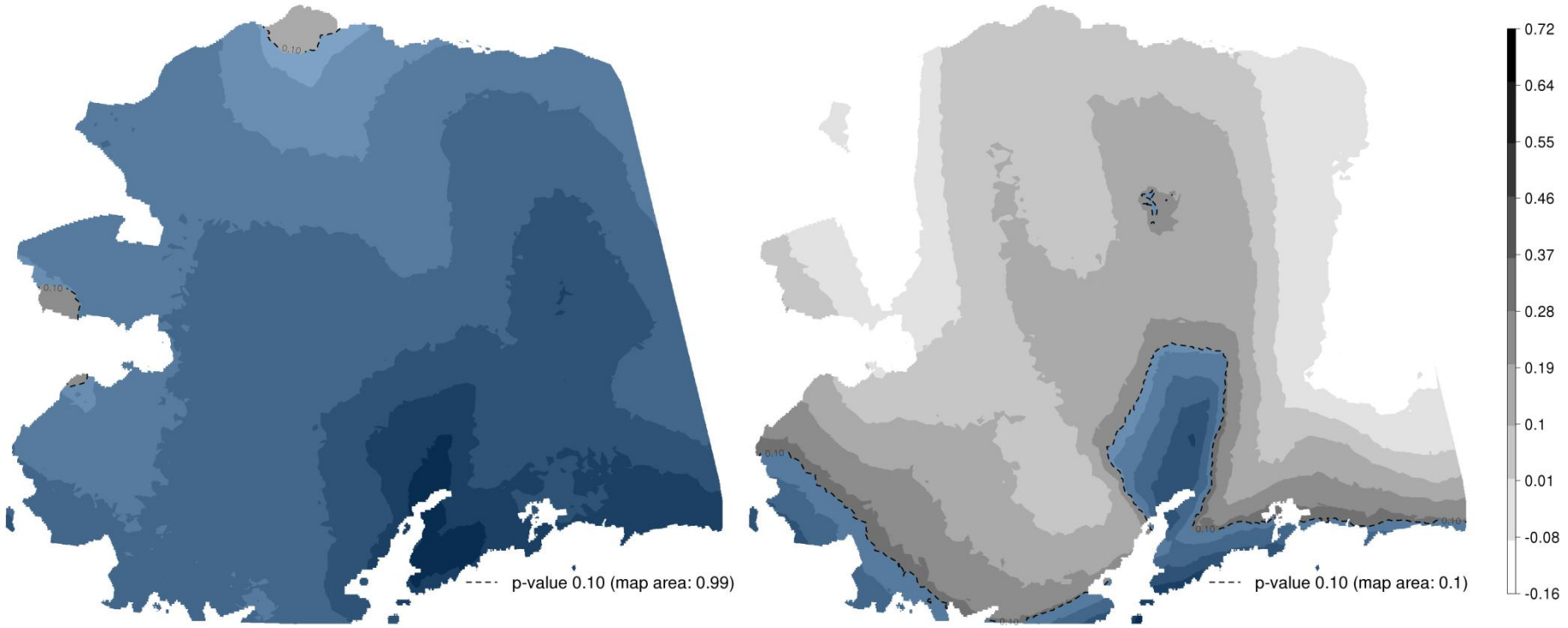

- Strength of relationship between June temperature and August temperature is stronger during the warm phase

Summary

- We can quantify the likelihood of post-June fire activity, using information about the activity through June.

- PDO provides useful information about the persistence of early season weather patterns